Please replace the paragraph beginning at page 12, line 12, with the following rewritten paragraph:

Stoichiometric perovskite compositions represented by said formula, i.e. v = w = 1, are kinetically unstable when subjected to large gradients (6-7 orders of magnitude or more) in the oxygen partial pressure. The kinetic decomposition that occurs in these materials gives rise to the formation of decomposition products on at least one of the membrane surfaces and a decrease in the oxygen flux with time. Such kinetic decomposition in the stoichiometric perovskite materials is exemplified by the present examples 12 and 15 and Figures 4, 8, 9, and 10. Kinetic decomposition becomes more pronounced when w > v. Therefore, stoichiometric perovskites (v = w), or perovskites with A-site deficiency (w > y) represented by said formula can not be used as membranes in said processes.

B2

Please replace the paragraph beginning at page 29, line 23, with the following rewritten paragraph:

These Examples demonstrate that the oxygen separation membranes of the present invention are particularly suitable as membrane materials in processes in which the membrane is subjected to a large potential gradient, e.g. oxygen partial pressure difference of 6-7 orders of magnitude or more across the membrane. Compared with compositions known in the prior art, these compositions offer improved resistance to kinetic decomposition and reduced chemical expansion, as well as improved stability against reduction to metal and reaction with carbon dioxide and water.

B3

IN THE CLAIMS:

Please amend claims 1-3 as follows:

1. (Amended) A solid multicomponent for use in a reactor wherein

B4

the membrane comprises a mixed metal oxide having a structure represented by the formula:

$$La_{1-x}Ca_x(Fe_{1-y-y'}Ti_yAl_{y'})_wO_{3-d}$$